March 16, 1943. S. MARCUS 2,314,153

SELECTIVE VOICE FOR TOYS

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Fig. 1

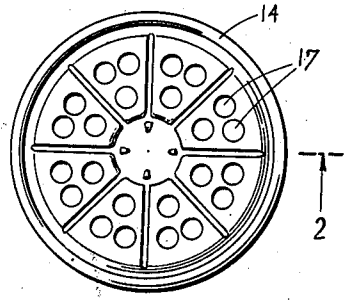


Fig. 3

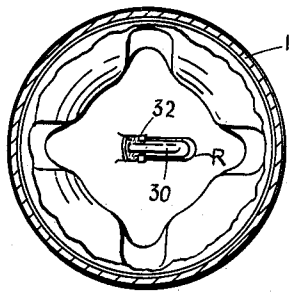


Fig. 2

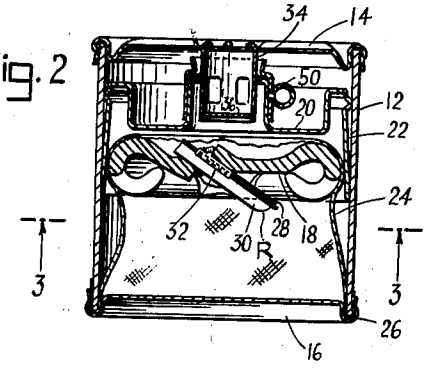
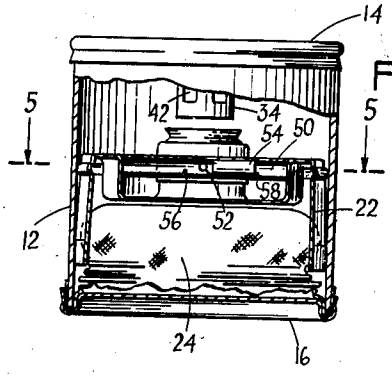


Fig. 4



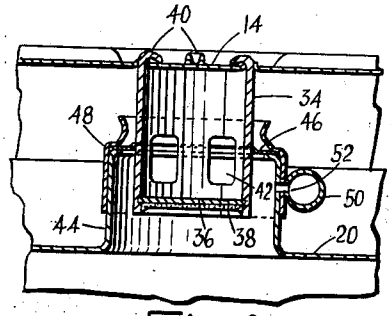
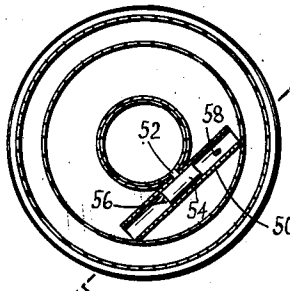


Fig. 6

Fig. 5



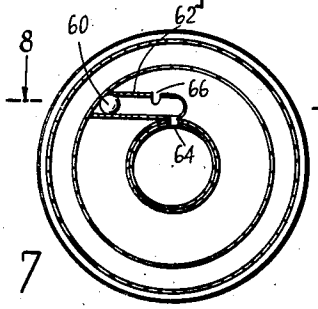


Fig. 7

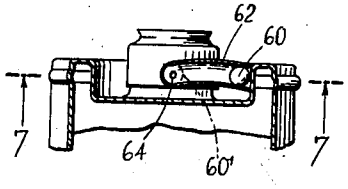


Fig. 8

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Fig. 9

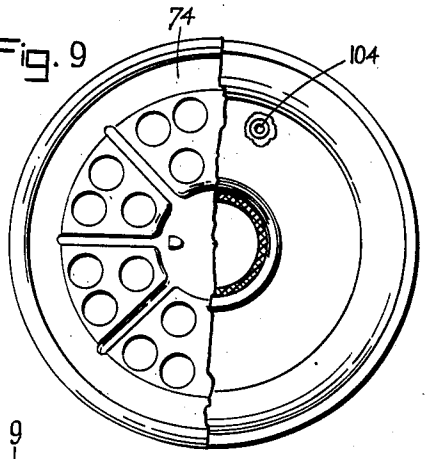


Fig. 11

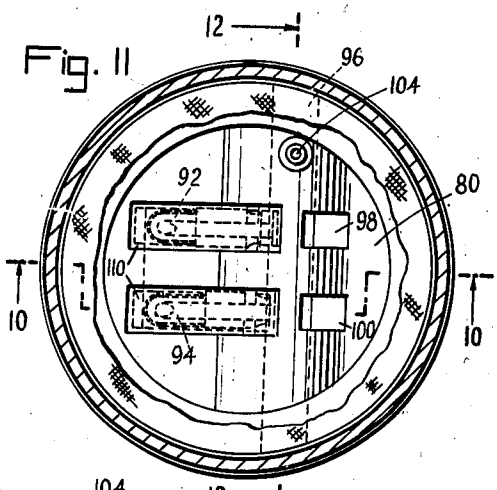


Fig. 10

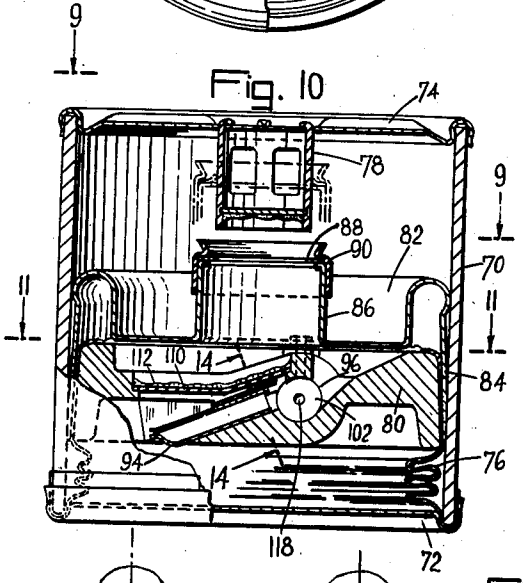
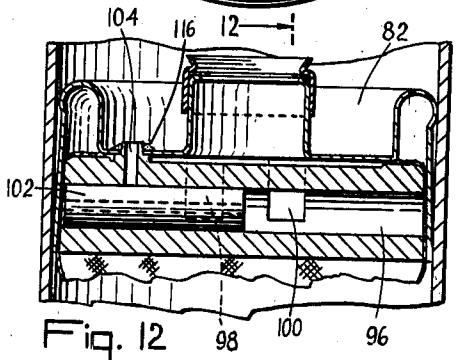


Fig. 12



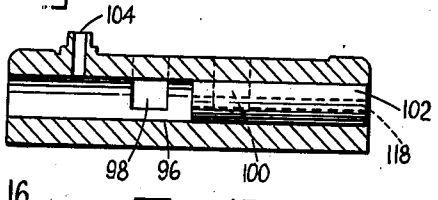
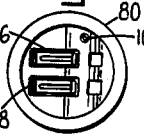


Fig. 13

Fig. 16



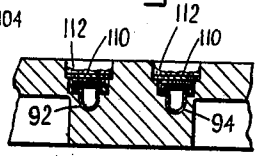


Fig. 14

Fig. 19

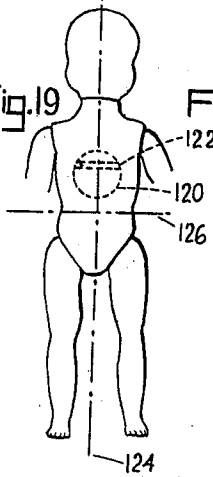
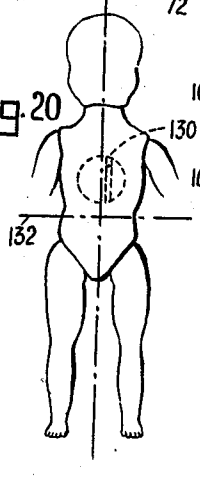


Fig. 20



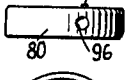


Fig. 17

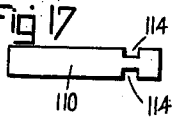


Fig. 15

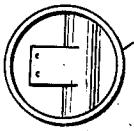


Fig. 18

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Patented Mar. 16, 1943 2,314,153

UNITED STATES PATENT OFFICE

2,314,153

SELECTIVE VOICE FOR TOYS

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Application December 13, 1941, Serial No. 422,811

21 Claims. (Cl. 46—187)

This invention relates to sound-producing devices or so-called "voices" for toys, particularly dolls.

The primary object of my invention is to generally improve "voices" for toys. Another object is to selectively produce either of two different sounds from a single voice structure.

A more specific object is to provide a combined "mama-and-papa" voice for dolls, the voice being selective to repeatedly produce a "mama" sound, or to repeatedly produce a "papa" sound, as desired. Still another object is to apply the invention to gravity-operated voices of known character, which include a known type of main valve for interrupting an otherwise continuous sound in order to simulate the articulation of syllables. From this viewpoint, my invention consists in the addition of an auxiliary valve, which may for convenience be called a "selector" valve, to change the voice to produce either the "mama" or the "papa" sound, as desired.

Still another object of my invention is to make the selector valve gravity-operated, so that no mechanical controls need be brought out of the body of the doll. The direction of gravity operation of the selector valve is preferably made transverse to the direction of gravity operation of the bellows of the voice, so that either may be operated independently of the other.

In accordance with further features and objects of my invention, the desired difference in sound may be obtained either by changing the sharpness of the cut-off or articulation of the sound, or by changing the pitch or tone of the sound, or preferably by changing both.

To the accomplishment of the foregoing and such other objects as will hereinafter appear, my invention consists in the voice elements and their relation one to the other, as hereinafter are more particularly described in the specification, and sought to be defined in the claims. The specification is accompanied by drawings in which:

Fig. 1 is an end view of a voice embodying features of my invention;

Fig. 2 is a longitudinal section taken approximately in the plane of the line 2—2 of Fig. 1;

Fig. 3 is an inverted horizontal section taken approximately in the plane of the line 3—3 of Fig. 2;

Fig. 4 is a partially sectioned elevation taken approximately in the plane of the line 4—4 of Fig. 5;

Fig. 5 is a horizontal section taken approximately in the plane of the line 5—5 of Fig. 4;

Fig. 6 is a fragmentary section similar to a part of Fig. 2, but drawn to enlarged scale;

Fig. 7 is a section through the cap portion of a weighty head having a modified form of selector valve, said section being taken approximately in the plane of the line 7—7 of Fig. 8;

Fig. 8 is a section taken approximately in the plane of the line 8—8 of Fig. 7;

Fig. 9 is a partially sectioned end view of a preferred form of voice embodying my invention, said view being taken approximately in the plane of the line 9—9 of Fig. 10;

Fig. 10 is a longitudinal section through the voice taken approximately in the plane of the line 10—10 of Fig. 11;

Fig. 11 is a transverse section taken approximately in the plane of the line 11—11 of Fig. 10;

Fig. 12 is a fragmentary section taken longitudinally of the voice approximately in the plane of the line 12—12 of Fig. 11;

Fig. 13 is a section through the selector valve similar to Fig. 12, but showing the movable element of the valve in opposite end position;

Fig. 14 is a section taken approximately in the plane of the line 14—14 of Fig. 10;

Fig. 15 is a detail showing a cover plate used over each reed assembly;

Fig. 16 is a plan view of one main part of the weighty head;

Fig. 17 is an elevation thereof;

Fig. 18 is a bottom plan view thereof;

Fig. 19 schematically illustrates a doll having the selector valve disposed horizontally when the doll is upright; and

Fig. 20 is a similar view having the selector valve disposed vertically.

Referring to the drawings and more particularly to Figs. 1 through 6, I there show some of the features of my invention applied to a known form of articulative voice. Specifically, the invention is shown applied to a voice of the type disclosed and claimed in my co-pending application, Serial No. 339,651, filed June 10, 1940, and entitled "Articulative voice."

The voice comprises a cylindrical casing 12 made of cardboard or like material, and closed by ends 14 and 16 preferably made of sheet metal. The end 16 is imperforate, while the end 14 has large holes 17 (Fig. 1) for sound discharge. A weighty head is slidable within casing 12. This head comprises a weight or solid disc 18 and a sheet metal cap 20 fitted thereover. The cap has a relatively deeply drawn skirt 22 which acts to guide the weighty head during its sliding movement within casing 12.

The bellows comprises a slightly frusto-conical piece of thin flexible fabric 24. The fabric is preferably rubberized or otherwise treated to make the same non-porous without, however, stiffening the same. The lower or larger end of the bellows is turned about casing 12 and is locked in position by the compressed flanged edge 26 of end 16. The upper or smaller end of

the bellows is locked between the periphery of weight 18 and the skirt 22.

The resulting airtight bellows is compressed when the weighty head moves gravitationally from the upper position shown in Fig. 2 to the lower position shown in Fig. 4.

Sound is produced by a reed assembly R. This comprises a thin, resilient, vibratile metal tongue or reed 28 (Fig. 2), disposed over the outwardly flanged edge of a metal channel 30, the stationary end of the reed being secured to the channel by a metal clamp 32. The assembly of reed, channel and clamp is a standard product regularly used in these devices. The reed assembly is carried in a mating opening in weight 18, and leakage of air is prevented by applying a sealing fluid around the reed assembly at the opening through the weight. This sealing fluid may have a suitable wax base (using a volatile solvent, or heated wax), or it may have a rubber base (using latex, for example).

As so far described the voice would produce a continuous sound. However, it is further provided with a main valve for interrupting this sound in order to simulatedly articulate syllables. As is described in my co-pending application aforesaid, a "p" sound (for "papa") may be produced by a very sharp cut-off. This requires a closely fitting gasket, but in order to minimize friction, the gasket is preferably made very thin and flexible.

In the present case the sheet metal end 14 of the housing carries a stationary valve tube 34. This is permanently closed at its upper end by the central imperforate part of end 14. It is permanently closed at its lower end by means of a disc 36. As is best shown in Fig. 6, the disc may be sealed against leakage by the application of a sealing fluid 38. The valve tube 34 is secured to end 14 by bent tongue and slot connections 40. It has a ring of large ports 42 cut therethrough. It is shorter than the travel of the weighty head, as will be clear from inspection of Fig. 4, in which the head has moved entirely below the valve tube.

The sheet metal cap 20 of the weighty head is drawn upwardly at 44 to form a gasket seat. A thin flexible annular gasket 46 is carried on seat 44. This gasket may be stamped from rubberized fabric such as is used for the bellows. The basket is held on seat 44 by means of a gasket retainer 48. The relation of the parts is such that the outer periphery only of the gasket is clamped between the seat and the retainer, the inner part of the gasket being freely flexible upwardly or downwardly as it moves along the valve tube. Although the gasket fits tightly it causes little friction because it is so thin and flexible. It may be made thin and flexible because it does not act as a guide for the weighty head, the latter being guided by the long skirt 22 slidably received within casing 12.

As so far described, the voice acts as a "papa" voice, because the sound is initially cut off sharply when the gasket is above the ports 42. The sound is freely discharged as the gasket moves past the ports 42. The sound is again sharply cut off when the gasket moves below the ports 42. The sound is again fully released when the gasket leaves the lower end of the valve tube. The result is articulation of the word "papa".

In accordance with the present invention, the voice is provided with an auxiliary valve or selector valve which makes it possible to modify the sound produced by the voice. Specifically, the selector valve may be used to convert the voice from a "papa" voice to a "mama" voice. To produce the "mama" sound it is necessary to avoid the sharp total cut-off which simulates the consonant "p," and to instead provide a certain amount of leakage so as to simulate the softener consonant "m." For this purpose I provide a vent which bypasses the main valve, said vent being controlled by the selector valve. Specifically, I provide a cylindrical valve tube 50, preferably extending transversely of the axis of the casing. This has a vent hole 52 communicating with the inside of cap 20. The valve tube may be secured to the cap in any desired fashion as, for example, by spot welding, and in the present case it is secured to the lower cylindrical portion of retainer 48. A weighty plug 54 (Figs. 4 and 5) is slidable in cylinder 50, and its movement is preferably limited by appropriate stops 56 and 58. The plug 54 acts as the movable valve element, and when it is in the end position shown in Fig. 4, the vent 52 is uncovered; whereas, when it is in the end position shown in Fig. 5, the vent 52 is closed.

With the selector valve in the position shown in Fig. 5, the voice functions as a "papa" voice. However, when the vent is opened by changing the selector valve to the position shown in Fig. 4, there is a continuous leakage through the vent opening, thus softening the otherwise sharp cut-off of the main valve and resulting in a simulated "mama" sound.

A modification of the selector valve is illustrated in Figs. 7 and 8. In this construction, the movable element 60 of the selector valve is a spherical ball. It moves in a valve tube 62. When the ball is in the broken line position 60' of Fig. 8, the vent opening 64 is closed, but when the ball is in the solid line position the vent is opened and leakage takes place through vent 64 and slot 66. The valve tube 62 may, if desired, be curved somewhat as shown in Fig. 8, so that the ball will not move too freely between its end positions. It will be understood that the main structure of the voice is similar to that previously described, the only change being in the selector valve itself.

As so far described, a single reed assembly is used, the sound of which is modified by the use of a vent. It is possible, however, to cause the selector valve to select which of two reed assemblies will be used for sound production. The reeds of these assemblies may differ substantially in pitch or tone. Preferably the higher pitch is used for the "mama" sound, in order to better produce a hum or "m" sound when the sound discharge is restricted. The lower pitch is used for the "papa" sound, so as to obtain a more pronounced cut-off for the "p" sound. Moreover, a wider difference in sound adds to a child's enjoyment of the toy.

The two reed assemblies also preferably differ in the air current required for operation. More specifically, the reed assembly for the "mama" sound is preferably an easy blowing assembly, while the reed assembly for the "papa" sound is preferably a harder blowing assembly.

The reason is that for a "mama" sound I preferably employ a reed assembly which will be blown even by the small air escaping through the vent. Such a reed assembly is not ideal for producing a "papa" sound, because the cut-off of sound is not as instantaneous as may be desired. For the "papa" sound, the reed assembly is preferably made harder to blow, thereby preventing undesired vibration of the reed in response to any

slight leakage of air, such as may take place through the gasket of the main valve. The reed assembly for the "papa" sound should be responsive only to the full blast of air provided when the main valve is open.

In general, the smaller the distance between the free or vibrating portion of the reed and the top edge of the channel, the less the air current required to set the reed into vibration. For the "mama" sound, there should be only a small distance between the vibratile tip of the reed and the plane of the top of the channel. For the "papa" sound, there should be a greater distance between the vibratile tip of the reed and the plane of the top of the channel, this distance being great enough to prevent vibration in response to mere leakage of air.

An arrangement using two reed assemblies is shown in Figs. 9 through 15. As before, the voice comprises a cylindrical casing 70 closed by sheet metal ends 72 and 74. Metal end 72 fixes one end of the flexible cloth bellows 76, while metal end 74 is appropriately perforated for sound discharge, and also carries the valve tube 78. The other end of bellows 76 is secured to a weighty head, which comprises a relatively massive disc or weight 80 and a sheet metal cap 82. The weight 80 somewhat resembles a small flywheel, but is more complex in configuration. This part is separately shown in Figs. 16, 17 and 18. It is preferably molded to shape, as by the use of die casting. It is also possible, however, to mold the same out of a plastic, and to then increase the weight, if necessary, by the addition of a heavy metal washer or other insert at any convenient point. In the present case the part 80 is made of metal and is adequate in weight.

As before, cap 82 has a long skirt 84 to guide the head, and has a gasket seat 86 on which gasket 88 is held by a retainer 90.

The weight 80 carries two reed assemblies 92 and 94. These are similar to the reed assembly previously described and are generally similar to each other, except that reed assembly 92 is higher in pitch, the reed being shortened by locating the clamp nearer the end of the reed than is the case with reed assembly 94. Also, the reed assembly 94 is less sensitive, or harder to blow. The upper or discharge ends of the reed assemblies open transversely onto a cylindrical valve tube 96, said valve tube extending all the way across the weight 80. Sound discharge ports 98 and 100 are located on the other side of the valve tube, directly opposite the discharge ends of the reed assemblies.

The selector valve is completed by a cylindrical element 102, which is freely slidable in the valve tube between the end positions shown in Figs. 12 and 13. It will be evident that with the valve in the end position shown in Fig. 12, the reed assembly 92 is inoperative while the reed assembly 94 is operative; whereas, with the valve in the end position shown in Fig. 13, the reed assembly 94 is inoperative and the reed assembly 92 is operative. In this way the selector valve functions to select which of the two different reed assemblies is actually used when the voice is operated.

If desired, the selector valve may be used to modify the sound produced in both ways already discussed, that is, by changing both the reed assembly and the sharpness of cut-off. The voice shown in Figs. 9 through 15 is designed for this purpose, and referring to Figs. 11, 12 and 13, it will be seen that a vent 104 is provided near one end of valve tube 96. This vent passes through a mating hole in the sheet metal cap 82, as is best shown in Figs. 9 and 12. It will be evident from inspection of the drawings that when the selector valve is in the position shown in Fig. 12, the vent 104, as well as the reed assembly 92, are closed and inoperative; whereas, when the selector valve is in the position shown in Fig. 13, both the vent 104 and the reed assembly 92 are open for operation.

In this case the change of consonants from "mama" to "papa" or vice versa, is accompanied by a change in tone or pitch. In the case here illustrated, the higher pitch is used with the vent for the "mama" sound, while the lower pitch is used without the vent for the "papa" sound.

Considering the structure in greater detail, the weight 80 is die cast as a finished unit in the form shown in Figs. 16, 17 and 18. The only finishing treatment needed is to ream and polish the selector valve opening or passage 96, so that the movable valve element will be freely slidable therein. The reed assemblies 92 and 94 are then dropped into their receptive seats 106 and 108. Sheet metal cover plates are then placed thereover, these cover plates being rectangular in configuration, as shown at 110 in Fig. 15. The cover plates are received on mating ledges provided in weight 80 at the openings 106 and 108. The cover plates 110 are bent as is best shown in Fig. 10, and the upwardly sloping part overlies the clamp of the reed assembly closely enough to hold the reed assembly in position. A sealing fluid is applied over the plates 110, as shown at 112, in order to make the same airtight. The plates are preferably notched at the points 114 (Fig. 15) so as to produce a flow of the sealing fluid around the upper or sound discharge end of the reed assembly, thus sealing the reed assembly in position and preventing leakage of air thereabout, so that there will be no loss of efficiency in its operation. This distribution of sealing fluid permitted by the passages 114, is shown in Fig. 14.

Sealing fluid is also applied at the point 116 (Fig. 12) around the upwardly projecting vent tube, thus eliminating the possibility of leakage around the outside of the vent tube.

The slidable valve 102 is preferably bored from end to end to form a bypass opening 118. This insures free movement of the valve element in the valve tube, that is, it prevents the valve element from being bound by vacuum at one end and pressure at the opposite end. The operation of the valve element requires only its external cylindrical surface, and theoretically the movable valve element may be a thin-walled tube, but I prefer to use a substantially solid plug having only a small bypass opening, in order to give it maximum weight so as to insure operation of the selector valve when the position of the doll is appropriately changed.

The actual manipulation of the doll depends on the manner in which the voice is positioned in the doll. In Fig. 19 the voice 120 is disposed with its axis extending from front to back, while the selector valve tube 122 is positioned in the direction from side to side, that is, both axes are horizontal when the roll is upright. The bellows of the voice may be operated either by rolling the doll from side to side about the longitudinal axis 124 while the doll is in horizontal position, or by turning the doll about the transverse axis 126 as, for example, changing the doll from a lying to a sitting or standing position, and back

again. The selector valve may be changed from one end position to the other by turning the doll about the longitudinal axis 124. Thus, if the doll rests on its back and is rolled to one side and back again, one sound will be produced, for example the "mama" sound, and this may be done repeatedly. If, however, the doll is rolled toward the other side and back again, the other sound or "papa" sound will be produced. If the doll is preliminarily rolled toward one side and returned, in order to put the selector valve in desired end position, for example the "mama" position, the doll may then be turned about the axis 126 to repeatedly produce a "mama" sound. To change to the "papa" sound the doll may be preliminarily turned about the axis 124 in order to change the position of the selector valve, and the doll may thereafter be turned about the axis 126 in order to repeatedly produce the "papa" sound.

In Fig. 20 the voice has been positioned in the doll with the selector valve tube 130 in vertical position when the doll is erect. With this arrangement the selector valve may be preliminarily put in one end position by tilting the doll with the head lower than the feet. Thereafter the doll may be returned to horizontal position and then rolled toward either side in order to repeatedly produce one type of sound, for example, the "papa" sound. If, however, the doll is turned with its head higher than its feet, the selector valve will be moved to the other end position. The doll may then be rolled toward either side in order to repeatedly produce a "mama" sound. Of course, the bellows may also be operated by turning the doll about the transverse axis 132. If the doll is turned between horizontal and upright positions, the "mama" sound is produced; whereas, if the doll is turned with the feet uppermost, the "papa" sound will be produced.

It will be understood that with the selector valve tube horizontal as in Fig. 19, the choice as between the "mama" and "papa" sound will depend on the location of the vent, that is, the voice may be rotated 180 degrees to place the vent at either side of the longitudinal axis 124 when installing the voice in the doll. Similarly, with the selector valve tube vertical as in Fig. 20, the choice as between the "mama" and "papa" sound will depend on whether the vent is at the upper or lower end of the valve tube. In Fig. 19 the vent is at the left and in Fig. 20 the vent is at the top, but the opposite condition may be established. Moreover, the voice may be positioned in the doll in some wholly different manner, thus leading to corresponding differences in operation.

It is believed that the construction and operation, as well as the advantages of my improved sound producing device for toys, will be apparent from the foregoing detailed description thereof. It will also be apparent that, while I have shown and described my invention in several preferred forms, many changes and modifications may be made in the structures disclosed without departing from the spirit of the invention as sought to be defined in the following claims.

In the claims the reference to reed assemblies of "differing pitch" is used for convenience, but is really meant more broadly to apply to differing characteristics in general, such as the different threshold air current referred to earlier in the specification.

I claim:

1. A selective voice for a toy, said voice comprising a gravity-operated bellows, a reed responsive to operation of the bellows, a gravity-operated main valve having parts relatively moved as the bellows moves in order to so modulate the sound produced by the reed as to simulatedly articulate syllables, and a gravity-operated selector valve arranged to additionally modify the flow of air in the voice in such a manner as to change the sound produced when the bellows and main valve are operated, the axis of operation of the selector valve being approximately perpendicular to the axis of operation of the bellows and main valve, and therefore being independent of the operation of the bellows and main valve.

2. A selective voice for a toy, said voice comprising a cylindrical casing, a bellows in said casing including a weighty head for gravitationally operating the bellows axially of the casing, a reed responsive to movement of the bellows, and a selector valve including a valve tube extending transversely of the axis of the casing, and a movable element gravitationally movable in said valve tube between end positions, said selector valve being arranged to modify the flow of air in the voice in such a manner as to change the sound produced when the bellows is operated, the transverse relation of the axes of the casing and the valve tube causing the operation of the bellows to be substantially independent of the operation of the selector valve.

3. A selective voice for a toy, said voice comprising a cylindrical casing, a bellows in said casing including a weighty head for gravitationally operating the bellows axially of the casing, a reed responsive to movement of the bellows, a main valve having parts relatively moved by movement of the weighty head in order to interrupt or modify the sound of the reed so as to simulatedly articulate syllables, and a gravity-operated selector valve arranged to modify the flow of air in the voice in such a manner as to change the sound produced when the bellows and main valve are operated, the operation of said selector valve being independent of the operation of the bellows and main valve, the axis of operation of the bellows and main valve being substantially perpendicular to the axis of the operation of the selector valve, whereby said operations are independent of one another.

4. A selective voice for a toy, said voice comprising a cylindrical casing, a bellows in said casing including a weighty head for gravitationally operating the bellows axially of the casing, a reed responsive to movement of the bellows, a main valve having parts relatively moved by movement of the weighty head in order to modulate the sound of the reed so as to simulatedly articulate syllables, and a selector valve including a valve tube extending transversely of the axis of the casing, and a movable element gravitationally movable in said valve tube between end positions, said selector valve being arranged to modify the flow of air in the voice in such a manner as to change the sound produced when the bellows and main valve are operated.

5. The combination with a voice including a bellows, of two separate valve mechanisms, one of which is operated in response to operation of the bellows, and the other of which is gravitationally operated independently of the operation of the bellows.

6. The combination with a voice including a

bellows, two reeds, and a main valve for articulation, of a single selector means for both modifying the operation of the main valve and for directing the air moved by the bellows across one reed or the other.

7. A selective voice for a toy, said voice comprising a cylindrical casing, a bellows in said casing including a weighty head for gravitationally operating the bellows axially of the casing, a reed responsive to movement of the bellows, a main valve, the parts of said main valve being relatively moved by movement of the weighty head in order to interrupt the sound of the reed so as to simulatedly articulate "papa," a gravity-operated selector valve, a vent affording escape of a small fraction of the sound produced by the reed independently of passage through the main valve, said vent being opened when the selector valve is in one position, and being closed when the selector valve is in opposite position, the vent when open serving to bypass the cut-off of the main valve and to thereby soften the articulation to simulatedly produce a "mama" sound instead of a "papa" sound, the axis of operation of the selector valve being substantially perpendicular to the axis of the casing, so that the operation of the bellows and main valve is independent of the operation of the selector valve.

8. A selective voice for a toy, said voice comprising a cylindrical casing, a bellows in said casing including a weighty head for gravitationally operating the bellows axially of the casing, a reed responsive to movement of the bellows, a main valve, the parts of said main valve being relatively moved by movement of the weighty head in order to interrupt the sound of the reed so as to simulatedly articulate "papa," and a selector valve including a valve tube extending transversely of the axis of the casing, and a movable element gravitationally movable in said valve tube between end positions, a vent affording escape of a small fraction of the sound produced by the reed independently of passage through the main valve, said vent being opened when the selector valve is in one position, and being closed when the selector valve is in opposite position, the vent when open serving to bypass the cut-off of the main valve and to thereby soften the articulation to simulatedly produce a "mama" sound instead of a "papa" sound.

9. A selective voice for a toy, said voice comprising a cylindrical casing, a bellows in said casing including a weighty head for gravitationally operating the bellows axially of the casing, said head having a cylindrical skirt of substantial axial length to guide the head axially of the casing, a reed responsive to movement of the bellows, a main valve comprising a ported valve tube extending axially of the casing, and cut-off means surrounding said valve tube, said cut-off means including an annular gasket made of thin flexible material in order to produce a sharp cut-off without appreciable frictional resistance to movement, the parts of said main valve being relatively moved by movement of the weighty head in order to interrupt the sound of the reed so as to simulatedly articulate "papa," said valve tube acting solely as a valve tube and not as a guide for said head, a selector valve, a vent affording escape of a small fraction of the sound produced by the reed independently of passage through the main valve, said vent being opened when the selector valve is in one position, and being closed when the selector valve is in opposite position, the vent when open serving to bypass the cut-off of the main valve and to thereby soften the articulation to simulatedly produce a "mama" sound instead of a "papa" sound.

10. A selective voice for a toy, said voice comprising a cylindrical casing, a bellows in said casing including a weighty head for gravitationally operating the bellows axially of the casing, a reed responsive to movement of the bellows, a main valve comprising a ported valve tube extending axially of the casing, and cut-off means surrounding said valve tube, said cut-off means including an annular gasket made of thin flexible material in order to produce a sharp cut-off without appreciable frictional resistance to movement, the parts of said main valve being relatively moved by movement of the weighty head in order to interrupt the sound of the reed so as to simulatedly articulate "papa," and a selector valve including a valve tube extending transversely of the axis of the casing, and a movable element gravitationally movable in said valve tube between end positions, a vent affording escape of a small fraction of the sound produced by the reed independently of passage through the main valve, said vent being opened when the selector valve is in one position, and being closed when the selector valve is in opposite position, the vent when open serving to bypass the cut-off of the main valve and to thereby soften the articulation to simulatedly produce a "mama" sound instead of a "papa" sound.

11. A selective voice for a toy, said voice comprising two reeds of differing pitch responsive to movement of the bellows, and a selector valve arranged to guide the flow of air from the bellows to one of the reeds when said selector valve is in one position, and to the other of the reeds when said selector valve is in another position, the position of the selector valve being independent of the position of the bellows.

12. A selective voice for a toy, said voice comprising a bellows, two reeds of differing pitch responsive to movement of the bellows, a main valve having parts relatively moved by movement of the bellows in order to modulate the sound of either reed so as to simulatedly articulate syllables, and a selector valve arranged to guide the flow of air from the bellows to one of the reeds when said selector valve is in one position, and to the other of the reeds when said selector valve is in another position.

13. A selective voice for a toy, said voice comprising a cylindrical casing, a bellows in said casing including a weighty head for gravitationally operating the bellows axially of the casing, two reeds of differing pitch responsive to movement of the bellows, and a selector valve arranged to guide the flow of air from the bellows to one of the reeds when said selector valve is in one position, and to the other of the reeds when said selector valve is in another position, the position of the selector valve being independent of the position of the bellows.

14. A selective voice for a toy, said voice comprising a cylindrical casing, a bellows in said casing including a weighty head for gravitationally operating the bellows axially of the casing, two reeds of differing pitch responsive to movement of the bellows, a main valve having parts relatively moved by movement of the weighty head in order to modulate the sound of either reed so as to simulatedly articulate syllables, and a selector valve arranged to guide the flow of air from the bellows to one of the reeds when said selector valve is in one position, and to the

other of the reeds when said selector valve is in another position.

15. A selective voice for a toy, said voice comprising a cylindrical casing, a bellows in said casing including a weighty head for gravitationally operating the bellows axially of the casing, two reeds of differing pitch responsive to movement of the bellows, and a selector valve including a valve tube extending transversely of the axis of the casing, and a movable element gravitationally movable in said valve tube between end positions. said selector valve being arranged to guide the flow of air from the bellows to one of the reeds when said selector valve is in one end position, and to the other of the reeds when said selector valve is in its opposite end position.

16. A selective voice for a toy, said voice comprising a cylindrical casing, a bellows in said casing including a weighty head for gravitationally operating the bellows axially of the casing, two reeds of differing pitch responsive to movement of the bellows, a main valve having parts relatively moved by movement of the weighty head in order to modulate the sound of either reed so as to simulatedly articulate syllables, and a selector valve including a valve tube extending transversely of the axis of the casing, and a movable element gravitationally movable in said valve tube between end positions, said selector valve being arranged to guide the flow of air from the bellows to one of the reeds when said selector valve is in one end position, and to the other of the reeds when said selector valve is in its opposite end position.

17. A selective voice for a toy, said voice comprising a cylindrical casing, a bellows in said casing, two reeds of differing pitch responsive to movement of the bellows, a main valve, the parts of said main valve being relatively moved by movement of the weighty head in order to modulate the sound of either reed, a selector valve, a vent affording escape of a small fraction of the sound produced by the one reed independently of passage through the main valve, said selector valve being arranged to guide the flow of air from the bellows to the lower-pitched reed and to close the vent when the selector valve is in one position, and being arranged to guide the flow of air from the bellows to the higher-pitched reed and to open the vent when the selector valve is in another position.

18. A selective voice for a toy, said voice comprising a cylindrical casing, a bellows in said casing, two reeds of differing pitch responsive to movement of the bellows, a main valve, the parts of said main valve being relatively moved by movement of the weighty head in order to modulate the sound of either reed, a selector valve including a valve tube extending transversely of the axis of the casing, and a movable element gravitationally slidable in said valve tube between end positions, a vent affording escape of a small fraction of the sound produced by one reed independently of passage through the main valve, said selector valve being arranged to guide the flow of air from the bellows to one reed and to close the vent when the selector valve is in one end position, and being arranged to guide the flow of air from the bellows to the other reed and to open the vent when the selector valve is in its opposite end position.

19. A selective voice for a toy, said voice comprising a cylindrical casing, a bellows in said casing including a weighty head for gravitationally operating the bellows axially of the casing, two reeds of differing pitch responsive to movement of the bellows, a main valve, the parts of said main valve being relatively moved by movement of the weighty head in order to modulate the sound of either reed, a selector valve, a vent affording escape of a small fraction of the sound produced by one reed independently of passage through the main valve, said selector valve being arranged to guide the flow of air from the bellows to the lower-pitched reed and to close the vent when the selector valve is in one end position, and being arranged to guide the flow of air from the bellows to the higher-pitched reed and to open the vent when the selector valve is in its opposite end position.

20. A selective voice for a toy, said voice comprising a cylindrical casing, a bellows in said casing including a weighty head for gravitationally operating the bellows axially of the casing, two reeds of differing pitch responsive to movement of the bellows, a main valve, the parts of said main valve being relatively moved by movement of the weighty head in order to modulate the sound of either reed, and a selector valve including a valve tube extending transversely of the axis of the casing, and a movable element gravitationally movable in said valve tube between end positions, a vent affording escape of a small fraction of the sound produced by one reed independently of passage through the main valve, said selector valve being arranged to guide the flow of air from the bellows to one reed and to close the vent when the selector valve is in one end position, and being arranged to guide the flow of air from the bellows to the other reed and to open the vent when the selector valve is in its opposite end position.

21. A selective voice for a toy, said voice comprising a cylindrical casing, a bellows in said casing including a weighty head for gravitationally operating the bellows axially of the casing, two reeds of differing pitch responsive to movement of the bellows, a main valve comprising a ported valve tube extending axially of the casing, and cut-off means surrounding said valve tube, said cut-off means including an annular gasket made of thin flexible material in order to produce a sharp cut-off without appreciable frictional resistance to movement, the parts of said main valve being relatively moved by movement of the weighty head in order to modulate the sound of either reed, and a selector valve including a valve tube extending transversely of the axis of the casing, and a movable element gravitationally movable in said valve tube between end positions, a vent affording escape of a small fraction of the sound produced by one reed independently of passage through the main valve, said selector valve being arranged to guide the flow of air from the bellows to the lower-pitched reed and to close the vent when the selector valve is in one end position in order to produce a "papa" sound, and being arranged to guide the flow of air from the bellows to the higher-pitched reed and to open the vent when the selector valve is in its opposite end position in order to produce a "mama" sound.

SAMUEL MARCUS.